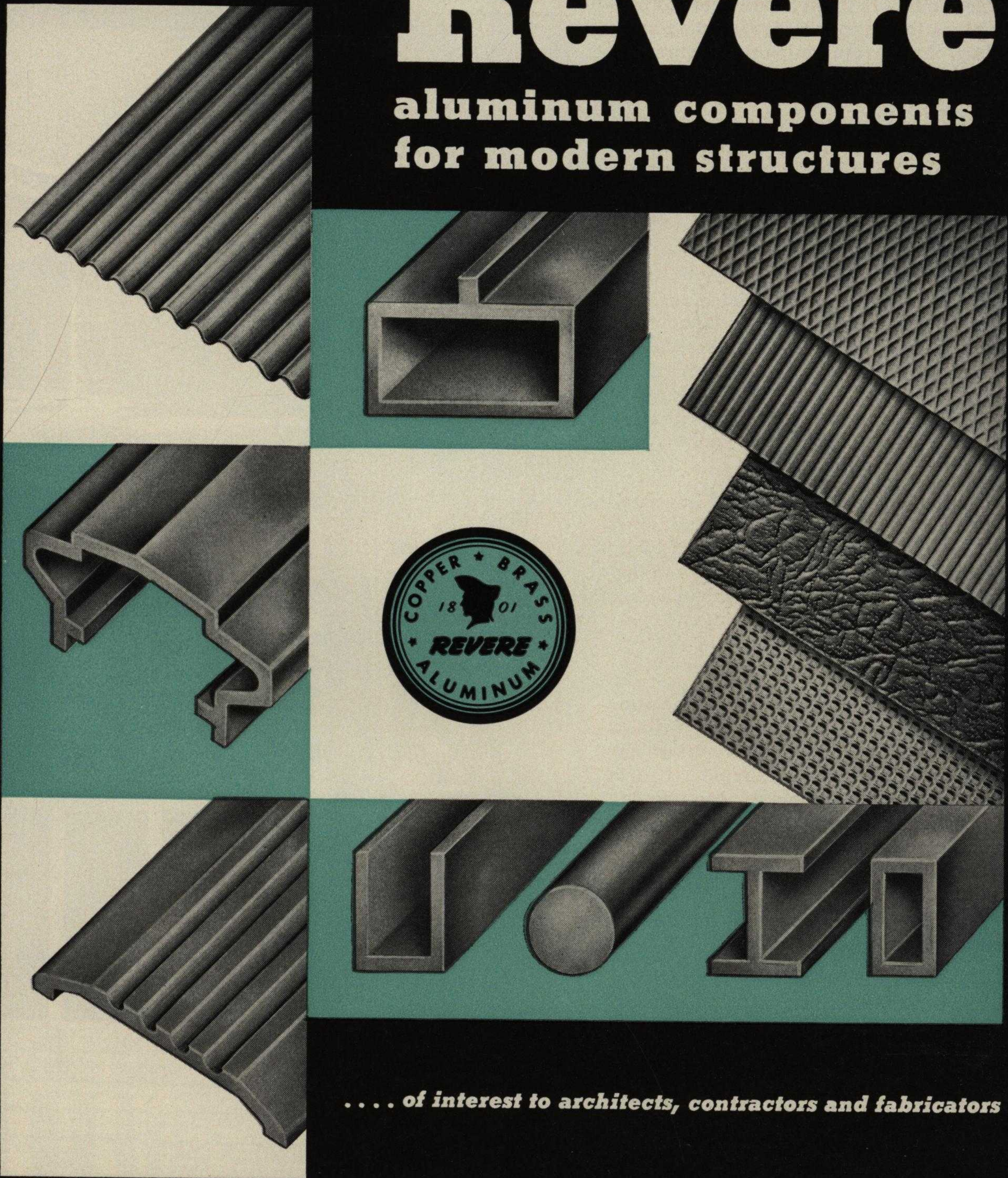
Revere

aluminum components for modern structures



. . . . of interest to architects, contractors and fabricators

**Revere Copper and Brass Incorporated
1960**

the increasing use of aluminum components in modern structures

Revere aluminum—in its new structural forms—takes its place today as a major building material. In fact, the Revere structural components present—to the architect, contractor and fabricator—a host of welcome opportunities for creating new forms, new effects, new structural beauty. Consequently, these aluminum components are playing a highly influential role in determining the shape and texture... even the color... of contemporary architectural design.

Because these aluminum components combine so many important attributes—strength, corrosion resistance, abrasion resistance, light weight, fascinating finishes, permanent colors—they are being specified for an ever-expanding scope of structural uses. Today, these aluminum components embrace virtually the whole gamut of basic shapes: structural angles and channels... thresholds and door jambs... roofing, siding and store fronts.

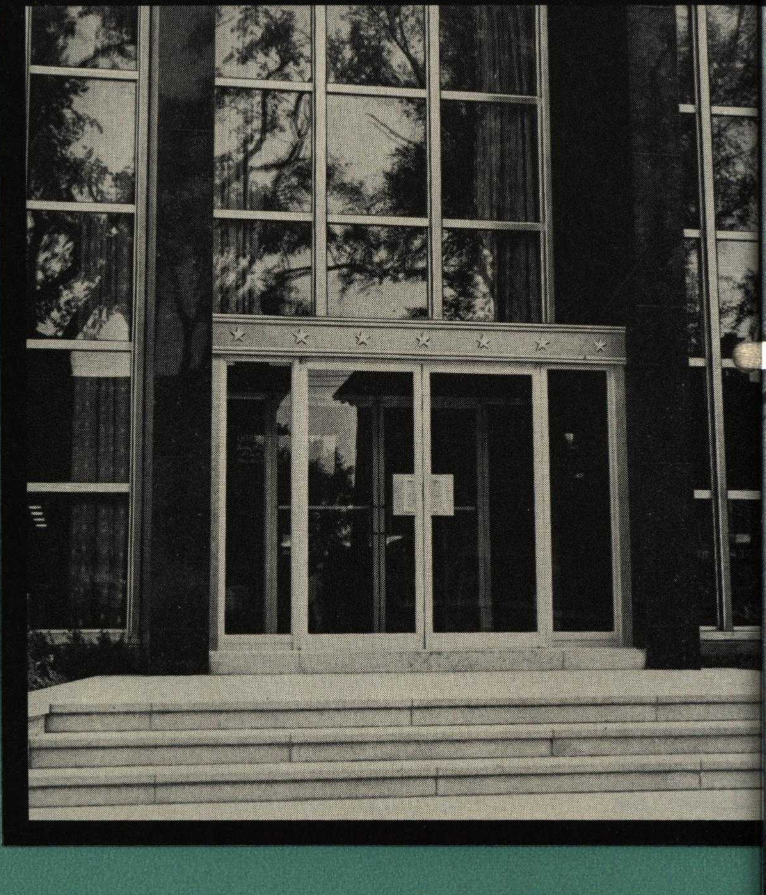
Today, whole buildings are encased in soft, silvery aluminum. Their entrances, their windows, their heating and cooling ducts, their hardware, their lighting fixtures, their partitions, even their bas-relief decoration—all are fashioned from this versatile wonder metal: *aluminum.*

fascinating textures, colors

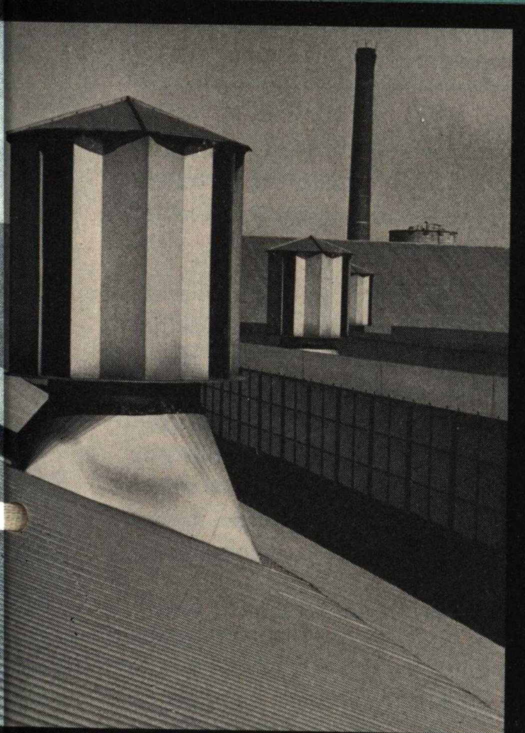
Fortunately, these aluminum structural components can "take" a wide variety of revolutionary treatments—to produce an entirely new array of fascinating finishes: simple satin textures... brilliant anodized colors... coatings that increase durability, assure longer life especially in harmful atmospheres. The architect has a whole new world of interesting, highly practical, effects at his command.

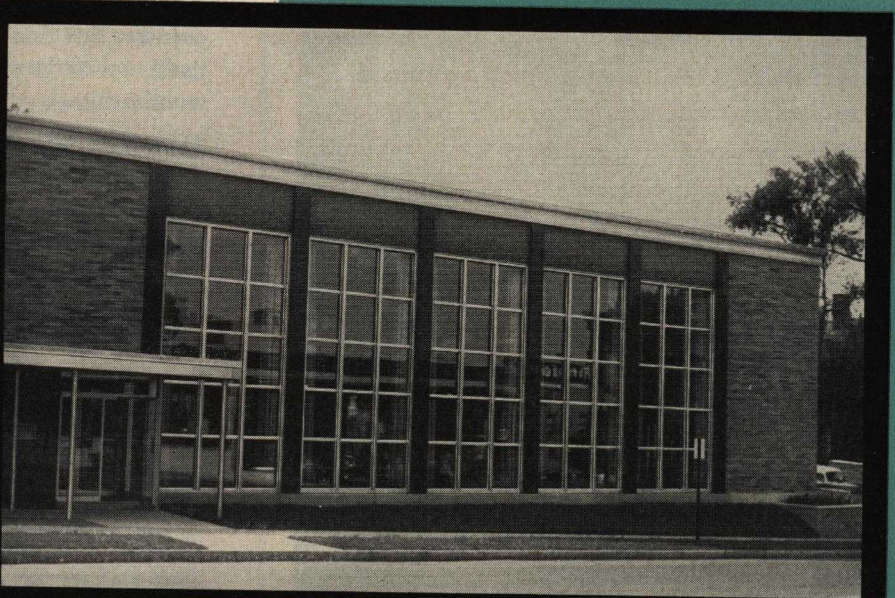
Revere: a principal source

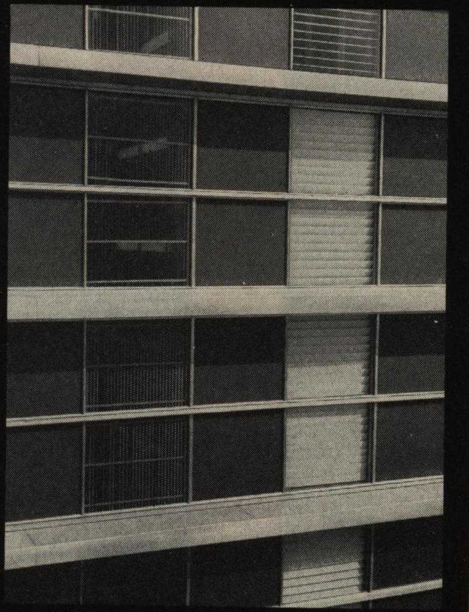
Revere aluminum structural components reflect more than progressive thinking, constant research and quality-controlled production techniques. These components reflect over a century and a half devoted to the production, fabrication and use of non-ferrous metals. No wonder Revere truly knows its A-B-C's in metals: A for aluminum ...B for brass... C for copper. Thus, Revere is rightfully one of the nation's leading sources for quality aluminum.



COPPER ★ BRASS
1801
REVERE
ALUMINUM







in this catalog	sectio
advantages	**1**
finishes	**2**
standard shapes	**3**
entrances, store fronts	**4**
door jambs	**5**
window sills	**6**
railings	**7**
thresholds	**8**
sheet – *plain, embossed*	**9**
roofing, siding	**10**
valley roll	**11**
alloy characteristics	**12**
technical advisory service	**13**

the important advantages of Revere aluminum structural components

There is a definite reason why Revere aluminum structural components are so rapidly becoming "part and parcel" of contemporary architectural design. The reason is not entirely relatively low cost and ready availability.

The reason is inherent, fundamental: *their unique combination of attributes* . . . a combination found in no other commercial building materials. Just a mere recital of the characteristics of these components is impressive. They are light in weight—yet, when fabricated from certain alloys, have the strength of structural steel. They retain high resistance to both corrosion and abrasion under the majority of service conditions. Their appearance, even in their natural (as-fabricated) form is pleasing, blends well with other structural materials. And these components can be transformed in both texture and color by a variety of finishes. Further, they have no toxic reaction on food. They have high thermal (and electrical) conductivity, high reflectivity to both heat and light. The three characteristics most important from the structural designer's viewpoint are explained at right.

the true cost

The true, year-after-year cost of these aluminum components is not difficult to figure. Because of their inherent freedom from maintenance...because of their ease of fabrication...because of their light weight and consequent ease of assembly and erection...because of their ready acceptance of finishes—the first cost of these Revere structural components is their *last* cost. And this initial cost is competitive with that of other comparable structural components. Further, these components do not require any maintenance, no initial or subsequent painting.

No wonder progressive architects, contractors and fabricators have come to regard Revere aluminum as a standard structural material.

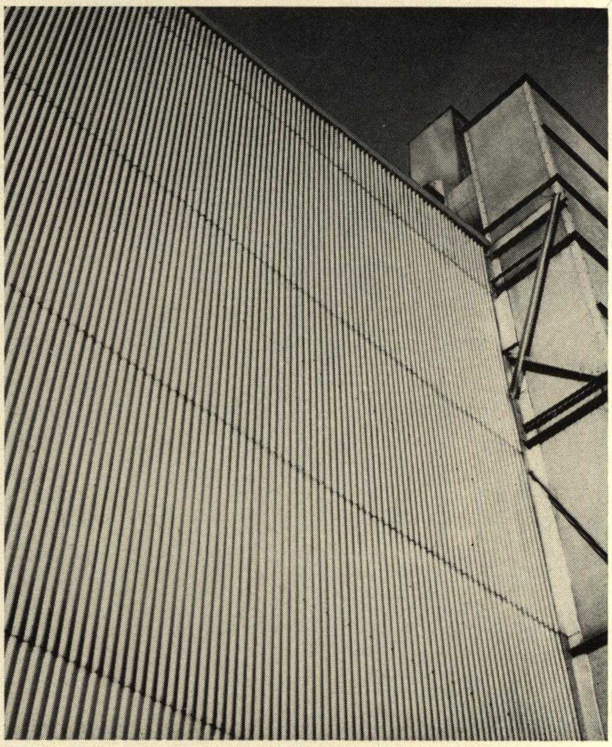
resistance to corrosion

Revere aluminum components, by their nature, oxidize. But this oxidation is *protective;* it builds itself up to form a hard coating against further weathering.

This coating is, in reality, a tough oxide film, essentially transparent, non-progressive, non-flaking, non-destructive and self-healing. Then, after a few years—even in industrial or seacoast atmospheres—this oxidation process slackens considerably. Tests show that the depth of this oxide coating is not appreciably deeper at the end of twenty years than at the end of two years. This is of prime importance when considering metal components for exterior application.

Consequently, Revere aluminum components can be used with complete assurance that, in resistance to corrosion, they will remain superior to components of any other commercial structural metal...that they will not form color salts that stain adjacent surfaces.

Because of this assured long life and this inherent freedom from maintenance, Revere aluminum components are today specified for an ever-expanding variety of structural applications—even in severe industrial and seacoast atmospheres.

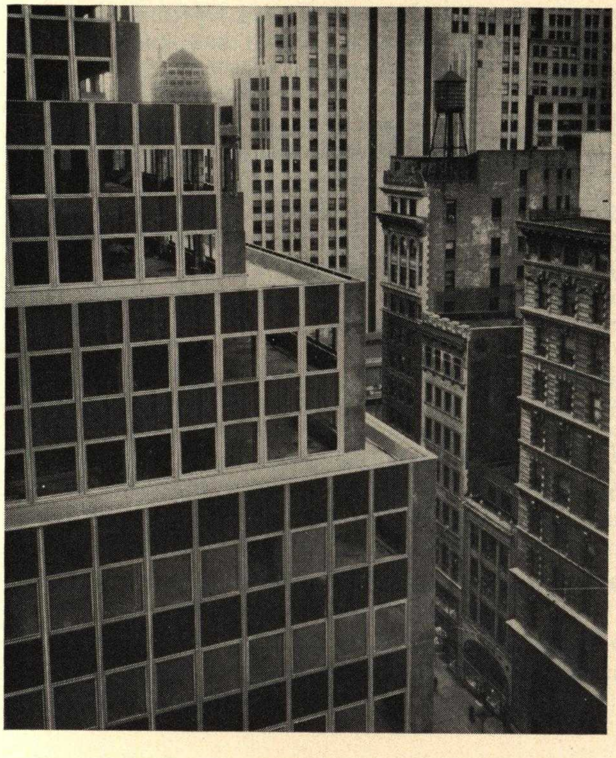


reduction in weight

One of the most dominant attributes of Revere aluminum structural components is their inherent light weight. They are lighter than masonry or other metal components generally used in construction. In fact, aluminum weighs approximately one-third, by volume, of other commercial metals. It gives three times as much area coverage as other commercial metals of equal thickness. This light weight is particularly pertinent to structural design—just as it is to product, aircraft and transportation equipment design. It makes possible many important (and often overlooked) advantages—and many important savings in cost:

First of all, these components are decidedly easier to handle, to transport, to erect. This is a particularly important factor when installing the larger components such as sheet, corrugated roofing and siding, spandrels. As a rule, a large section can easily be carried by one man.

Then, because of this reduced dead load, these aluminum components permit lighter supporting structures. This reduces not only the cost of the supporting structure, but also increases the speed of erection.



pleasing appearance

This attribute—smooth, soft, silvery appearance—is, of course, an important reason Revere aluminum components are selected for so many applications that must have, and retain, eye appeal. For, these components—even when their natural finish is oxidized to a soft lustre—keep their fresh appearance, their smooth-to-the-touch texture.

The new patterns of Revere embossed sheet—by creating interesting shadow lines—are actually fascinating, especially when used for wall panels, partitions and doors. Further—and highly important—Revere aluminum components, due to their trim design, blend admirably with other building materials: brick, concrete, terrazzo, polished wood, marble, glass—also with both interior and exterior plantings. However, these Revere aluminum components are not limited in their appearance to the natural, as fabricated finish. Fortunately, they "take" a host of special treatments and coatings.

Consequently, Revere aluminum structural components—because of their new worlds of texture and color—offer the architect, contractor and fabricator wide design freedom, wide opportunity for creating rich, yet dignified effects.

the wide variety of successful finishes applicable to aluminum structural components

Aluminum structural components in their natural (as-fabricated) finish are, by their inherent nature, both pleasing in their soft, silvery texture and highly resistant to corrosion and abrasion. The oxide film that forms is thin, transparent—yet protects the surface against ordinary conditions and weathers to a pleasing, uniform finish. For certain applications—such as flashings, roofing, siding—this natural (mill) finish is entirely satisfactory.

However, for decorative effects and particular conditions, these salient attributes—pleasing texture, resistance to corrosion, abrasion—can be increased materially by special treatment, special finishing. Then, these important structural components become still more attractive in appearance... still more serviceable in fulfilling their functional duties ... still more versatile in their structural applications.

Fortunately, aluminum "takes" a wide variety of finishes. These finishes divide into six major groups: mechanical, chemical, electrochemical, electroplated, porcelain enamel, paint and lacquer.

Revere aluminum structural components shown in this catalog can be specified with any of the finishes described in this section. However, certain finishes are not advisable on certain components—due to use or exposure of the components, processing limitations or unnecessary excessive cost. It is therefore recommended that architects, contractors and fabricators, with problems in finishing, avail themselves of the Revere Technical Advisory service—and the Revere network of sales offices—as explained in section 13.

1 mechanical finishes

Aluminum structural components are readily improved, in both appearance and utility, by a variety of mechanical finishes. These finishes are easily attained and are comparatively low in cost. They are produced by abrading the components to make their surfaces either rougher (as in scratch finish) or smoother (as in polished finish). They are generally used either to provide a pleasing surface texture, or to form a pretreated base for subsequent finishes.

There are seven mechanical finishes particularly applicable to Revere aluminum components:

la ground This is a preliminary "trimming down" finish. It is generally used on aluminum forged, cast and welded components:

- to remove large portions of excess metal
- to smooth down surface imperfections
- to reduce castings and forgings to approximate size

This preliminary ground finish has a coarse texture which is not particularly pleasing in appearance. It is generally followed by another mechanical finish.

1b polished This finish, virtually the same as on other metals, is generally applied to aluminum components:

- to increase surface lustre
- to remove surface fabricating imperfections

This polished finish is attained by abrading the aluminum components with a sequence of progressively finer abrasives.

lc buffed This finish is even more lustrous, more brilliant than the polished finish. It is produced in the same way—with a sequence of progressively finer buffing agents (generally tripoli powder). The final finish is often called "color buffed"—because the aluminum takes on such a high gloss that it is highly reflective (although the color of the aluminum is not changed).

ld scratch This is a highly popular finish for aluminum structural components. It is sometimes called "wire brush" finish. It varies in appearance from a narrow, shallow-lined texture (particularly applicable to aluminum sheet) to a coarse, rough texture. Basically, this scratch finish is produced on structural components for two definite functions:

- to present an interesting, decorative surface texture, pleasing to both eye and touch
- to obscure surface imperfections incurred during fabrication of the components

1e satin This is a soft, smooth finish — with a satin-like sheen and low reflectivity.

1f abrasive-blasted This is a uniform matte finish. It is easily and inexpensively produced on aluminum components by blasting with various abrasives. It is used for two purposes:

- to give a pleasing, muted finish
- to provide a pre-treated surface for subsequent anodic or paint finishes

This abrasive-blasted finish, due to the variety of blasting materials used, produces on the aluminum components various color casts—such as light grey and light blue.

Because this abrasive-blasted finish is, by nature, a rough finish, it retains dirt particles. Consequently, it is usually given a protective coating, either lacquer or clear varnish, or an electrochemical finish.

1g hammered Aluminum components with this finish resemble hand-hammered silver or other metals.

2 chemical finishes

A wide variety of surface finishes — either highly interesting or highly protective — are easily, economically produced on aluminum components by chemical treatment. Certain of these treatments retain the silvery color of the aluminum, but add fascinating textures — from soft muted "feel" to striking brilliance. Other treatments give a decided color cast to the aluminum or actually change its color with dyes. Still others, generally patented processes, increase the corrosion resistance and provide a sound working base for subsequent coatings.

There are seven generally used chemical processes:

2a alkaline-etched This sparkling, silver-white finish — often called "frosted" — is the most widely used of the chemical finishes. By varying the sodium hydroxide (caustic soda), various degrees of "frost" — including the popular matte frost are easily attained. This alkaline etched finish is selected for three definite purposes:

- to provide a uniform "frosted" surface texture, pleasing to both eye and touch
- to remove the glare of untreated surfaces
- to obliterate surface scratches and imperfections

2b acid-etched This finish resembles the alkaline-etched matte finish. It is used on aluminum components for specific reasons:

- to provide a muted matte texture
- to obliterate heat-treatment stains
- to deep-etch designs upon the aluminum surfaces

2c oxide coated This type of finish, usually produced by patented chemical processes, is available in a variety of unusual textures. These finishes are applied principally for their decorative value. They range in color from gray-green to practically black or can be colored with dyes (like the electrochemical finishes).

2d metallic coated This finish consists of a thin coating of certain metals — such as tin, brass, silver — on the aluminum components. It is both protective and pleasing in appearance. It is attained by galvanic action in special solutions.

2e bright dip This highly attractive finish has a brilliant, mirror-like lustre and a smooth, specular surface. Because this finish is attained chemically — by immersion in a special acid reagent — it is generally applied to shapes too irregular or curved for mechanical finishes. This bright dip finish is particularly successful when applied to components which have been polished or buffed (see 1b and 1c) — and are then protected by a clear anodic coating (see 3a).

2f phosphate coated This type of finish, attained by various patented processes, is a protective phosphate coating on the surface of the aluminum component. Because this phosphate-coating is insoluble, this finish is used for two important reasons on aluminum components:

- to increase the resistance to corrosion
- to provide an excellent base for the adhesion of paint or other coatings

2g chromate coated This type of finish, attained by several patented processes, is, in reality, a surface film of aluminum chromate. This film, converted by the action of the processes, is generally used for two purposes:

- to increase the resistance to corrosion
- to provide a sound base for the adhesion of paint or other coatings

Because this finish generally has a gold-to-brown color that is not always uniform, it is used principally as a paint base where color differences are not a factor.

3 electrochemical finishes

Electrochemical finishes are finding considerable application on aluminum structural components. They provide finishes not attainable by other methods. They are, naturally, more expensive than the mechanical and chemical finishes. There are three principal types:

3a anodized The highly versatile anodic finishes—applicable only to aluminum—are, in essence, a thin, inert aluminum oxide coating which remains tightly adherent to the base aluminum. These finishes are dense, tough and hard. They will not chip or peel.

They are characterized by their unique metallic lustre which is either transparently clear or opaquely colored in a fascinating range of highly pleasing hues. Yet these anodic coatings retain the texture of the aluminum on which they are electrochemically formed.

As these anodized finishes are, by their nature, microscopically porous, they are highly receptive to dyes and inorganic pigments. Consequently, these finishes are obtainable in a full spectrum of colors—or can be treated to resemble gold, brass, bronze, copper or other metals. The colors become an integral part of the metal surface.

Thus, these anodized finishes are today widely used in finishing aluminum structural components:

- to obtain a brilliant, highly attractive lustre—either clear or colored
- to provide stout protection against weathering, abrasion, corrosive attack, wear
- to protect other types of finishes (such as satin, buffed)—yet retain their textures
- to provide a hard, smooth surface that resists dirt collection and simplifies cleaning.

These anodic finishes are attained by a simple electrochemical procedure. The aluminum article to be finished is made the anode (rather than the cathode as in electroplating). An electrolyte capable of releasing oxygen is selected. In the anodizing reaction, this oxygen is deposited on the aluminum article and immediately reacts with the aluminum to form aluminum oxide. This aluminum oxide, it is important to remember, becomes integral with the surface of the metal. After the process is completed, the pores of the finish are closed by a simple sealing.

Consequently, these anodized finishes provide wide opportunity for creating new effects — in lustres, textures and colors. They are widely used on components subject to weather, constant abrasion, difficult atmospheres . . . to components that must be easy to clean and maintain . . . and especially to components that require a permanently beautiful lustre, either clear or colored. Hence, these anodized finishes are specified for such structural components as windows, doors, spandrels, panels.

3b electro-polished This finish, attained by various patented procedures, is similar to the bright dip finish (see 2e) — but has a decidedly higher light reflectivity. In fact, this finish is capable of reflecting 85% of the incident light. It achieves a specular surface that is remarkably smooth, depression-free and highly polished. If protected with an anodic finish and cleaned regularly, it retains this high polish practically indefinitely.

3c hard-coat This type of finish—attained by either the Martin or Sanford process — is similar, in most respects, to the anodized finishes (3a). Its coating, however, is decidedly thicker, extremely hard and strongly bonded to the base aluminum. It has superior wearing characteristics. Consequently, this hard-coat finish is applied principally to components requiring unusually stout resistance to wear, abrasion and corrosion. It is unusually successful in severe industrial and seacoast atmosphere. It is finding wide use on aluminum components used on marina installations.

Because this hard-coat finish is not particularly pleasing in appearance, it is not used for its decorative value.

4 electroplated finishes

These finishes, when applied to aluminum structural components, are both highly successful and economically practical. They permit the electrodeposit of a variety of metals—such as copper, brass, chromium, nickel, cadmium—for attaining the desired surface characteristics. For the most part, these electroplated finishes are specified for two purposes:

- to obtain interesting decorative effects—with metals of colors and textures different from those of aluminum
- to obtain certain characteristics—resistance to wear, abrasion, corrosion—better suited than those of aluminum to certain applications

These electroplated finishes, if the procedures are correctly handled, can even be used on cast and wrought aluminum alloys.

5 porcelain enamel finishes

These finishes, in essence, are hard, glossy, opaque coatings of vitreous compositions of fritted glass and pigments. These compositions are fused to the surface of the aluminum by firing at temperatures over 800 F.

These porcelain enamel finishes are highly resistant to impact, flexing and thermal shock. On aluminum, these finishes, because they are thinner and have tighter adhesion, show better resistance than when fused to other metals. They are highly resistant to acids and alkalies. They actually increase the rigidity of the aluminum base. These porcelain enamel finishes are available in a full range of gloss from dull matte to a brilliant lustre. They are applicable to a variety of surface textures. In addition, these porcelain enamel finishes when correctly fused, are readily fabricated. There is practically no exposure of the aluminum base. And there is no spalling, no cause for discoloration. They permit welding on the reverse side.

Consequently, porcelain enamel finishes are today widely used on aluminum structural components — panels, curtain walls, store fronts, trim, sanitary compartments, signs.

6 paint and lacquer coatings

Aluminum, when properly prepared, is easier to protect with paint or lacquer coatings than are most competitive metals. These paint and lacquer coatings are also widely used for decorative effects. They are low in cost. The various methods of application are basically the same as for other metals. The finishes most extensively used include oil base paints, bituminous paints, synthetic resin finishes, long oil varnishes and enamels, aluminum paint, and fast-drying lacquers.

6a organic coatings

Organic coatings, highly developed in recent years, are particularly effective in their resistance to both corrosion and abrasion. They are generally low in cost. Three of these organic coatings are used, with unusual success, on aluminum structural components. The transparent types are used to preserve the natural (as-fabricated) or the applied finish of the aluminum.

6b alkyd paint This dry-baked coating combines high resistance to weathering with a wide variety of permanent colors. It takes processing operations without chipping. It is therefore widely used on such exposed applications as sheet, either plain or embossed, to be fabricated into outdoor awnings and other exposed architectural members.

6c vinyl paint This coating, whether clear or pigmented, is used on structural members which, in forming, must maintain their properties and finish. It is therefore used on such applications as roll-formed screen frame sections. The pigmented coatings are somewhat transparent and produce a semi-metallic effect on the aluminum component. The most successful color is pale green—but green gold, blond, coppertone, gray, blue and rose are also available.

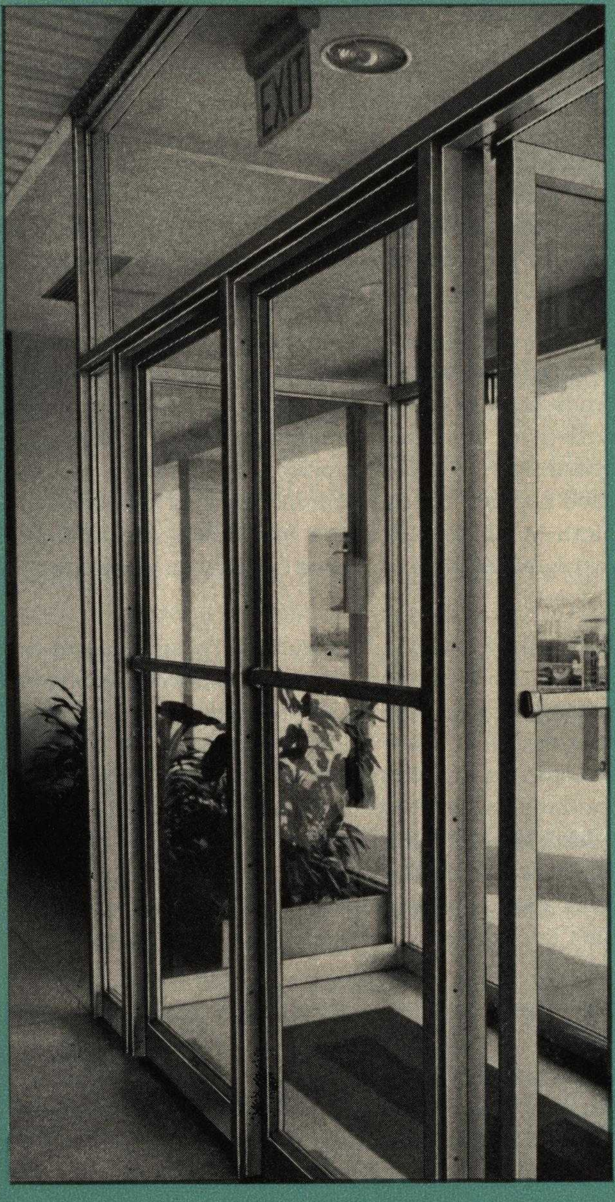
6d vinyl-alkyd paint This coating, available in all colors, is used on aluminum structural members that require unusual flexibility during forming. It is therefore specified for such applications as lock-seam tubing.

standard shapes

for construction

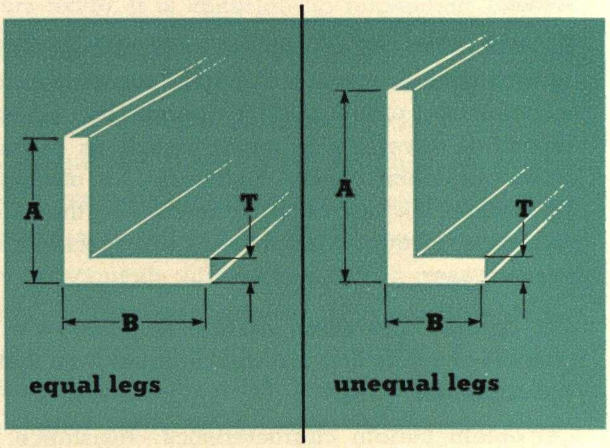
Revere aluminum standard shapes are particularly designed for construction projects. They open to the architect, contractor and fabricator wide opportunities for developing new forms, new effects, new beauty—and permanent economies—in contemporary architecture.

These standard shapes are easily combined to form structures decidedly in stride with today's concepts of clean, functional architectural design.



angles

with square corners

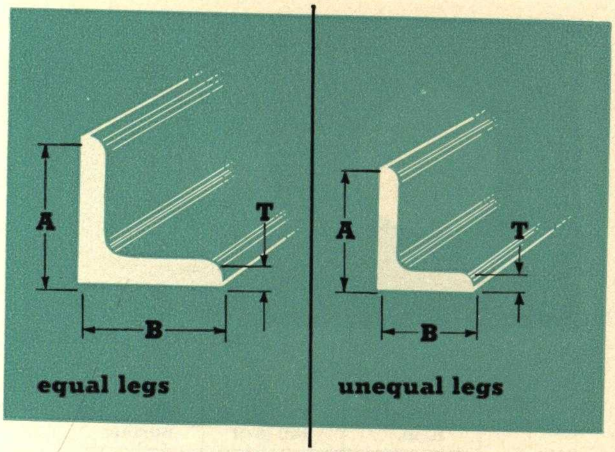


alloy: 6063-T5
standard length: 16 ft

length of legs A, in.	length of legs B, in.	thickness T, in.	weight (est) lb/ft	die number
equal legs				
½	½	1/16	.071	A- 489
		⅛	.131	☐
⅝	⅝	⅛	.169	A-3983
¾	¾	1/16	.107	A-7424
		⅛	.206	A- 513
1	1	1/16	.145	A-1805
		⅛	.281	A- 511
		3/16	.408	A-3407
1¼	1¼	⅛	.356	A-3816
		3/16	.521	A-3538
1½	1½	⅛	.431	A-1044
		3/16	.632	A-3830
1¾	1¾	⅛	.506	☐
2	2	⅛	.581	A-2709
		3/16	.857	☐
		¼	1.124	☐
unequal legs				
¾	⅜	3/32	.116	☐
1	½	3/32	.158	☐
		⅛	.206	☐
1	¾	⅛	.244	A-4984
1¼	½	⅛	.244	A-3821
1½	¾	⅛	.319	☐
	1	⅛	.356	A-1380
2	1	⅛	.431	A-1376
3½	1¼	⅛	.694	☐

☐ die number not yet assigned

with round corners

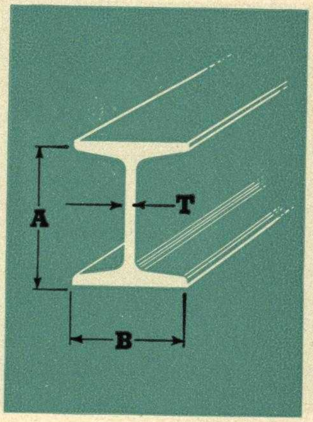


alloy: 6061-T6
standard length: 20 ft

length of legs A, in.	length of legs B, in.	thickness T, in.	weight (est) lb/ft	die number
equal legs				
¾	¾	⅛	.20	A-3872
1	1	⅛	.27	A- 957
		3⁄16	.40	A-3873
1¼	1¼	⅛	.35	A-2807
1½	1½	3⁄16	.62	A- 954
1¾	1¾	3⁄16	.73	A-6119
2	2	3⁄16	.84	A-2762
		¼	1.11	A-2699
2½	2½	¼	1.41	A-3979
3	3	3⁄16	1.29	A-5946
		¼	1.68	A-5947
		⅜	2.47	A-3909
4	4	¼	2.28	A-7785
		⅜	3.36	A-7787
unequal legs				
3	2	¼	1.40	A-3876
4	3	¼	1.99	A-3908

I-beam

American standard

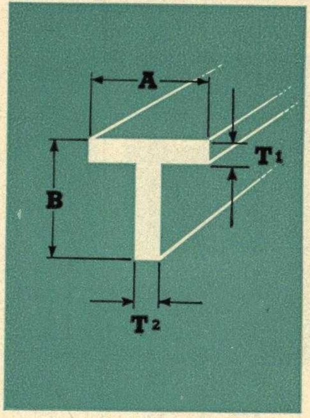


alloy: 6061-T6
standard length: 20 ft

height A, in.	width B, in.	thickness T, in.	weight (est) lb/ft	die number
3	2.33	.170	1.96	A-7379
4	2.66	.190	2.64	A-5986
5	3.00	.210	3.42	A-4024

tee

with square corners

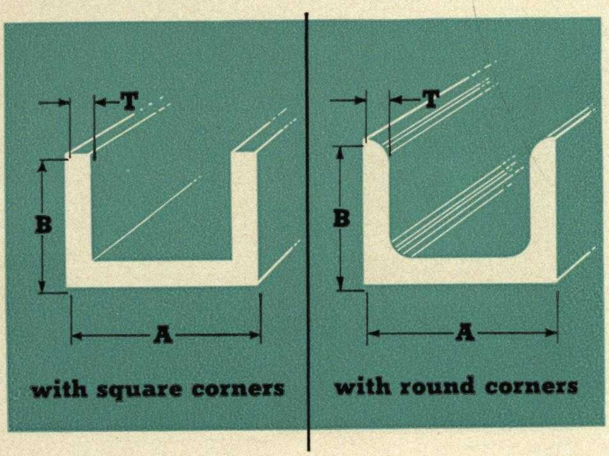


alloy: 6063-T5
standard length: 16 ft

width A, in.	height B, in.	thickness T1, in.	thickness T2, in.	weight (est) lb/ft	die number
¾	¾	⅛	⅛	.169	A-1338
	1¼	⅛	⅛	.280	☐
⅞	1¼	5⁄32	⅛	.328	☐
1	½	⅛	⅜	.319	☐
	¾	⅛	⅛	.244	☐
	1	⅛	⅛	.281	A-1339
1¼	⅞	⅛	⅛	.300	☐
2	¾	⅛	⅛	.394	☐

☐ die number not yet assigned

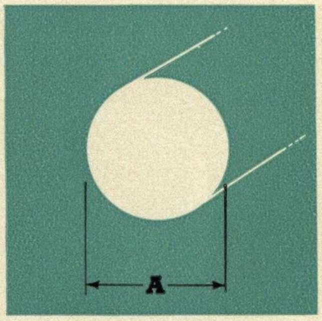
channels



width A, in.	height B, in.	thickness T, in.	weight (est) lb/ft	standard length, ft	die number
with square corners: alloy 6063-T5					
½	⅜	⅛	.150	16	☐
	½	3⁄32	.148	16	A-3248
	¾	⅛	.263	16	☐
⅝	⅝	⅛	.244	16	☐
¾	⅜	⅛	.188	16	A-1342
	¾	⅛	.300	16	A-3188
1	½	⅛	.263	20	A-3815
	1	⅛	.413	16	A-6543
1¼	½	⅛	.300	16	☐
	1¼	⅛	.526	20	☐
1 7⁄16	½	3⁄32	.251	20	☐
1½	½	⅛	.337	20	A-5301
1¾	½	⅛	.374	16	☐
	¾	⅛	.450	16	A-4997
	1	⅛	.524	16	A-1015
2	½	⅛	.413	16	☐
	1	⅛	.563	20	A-1375
2¼	⅞	⅛	.563	20	A-3187
2½	1½	⅛	.787	22	☐
3	½	⅛	.563	16	☐
	1	⅛	.713	16	A-8037
5	2	3⁄16	1.940	16	☐
with round corners: American standard, alloy 6061-T6					
4	1.58	.180	1.84	20	A-3879
5	1.75	.190	2.31	20	A-5976
6	1.945	.225	3.00	20	A-3911
8	2.29	.250	4.25	20	A-5977
10	2.6	.240	5.28	20	A-5978

☐ die number not yet determined

rod

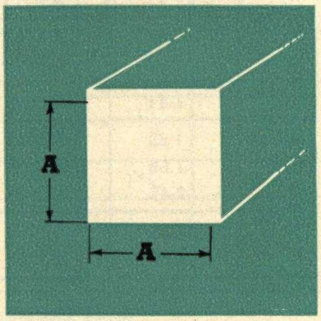


alloy: 6063-T5

standard length: 16 ft

diameter A, in.	weight (est) lb/ft	die number
½	.235	A- 680
⅝	.368	A-1353
¾	.530	A- 444
1	.942	A-4246

square bar

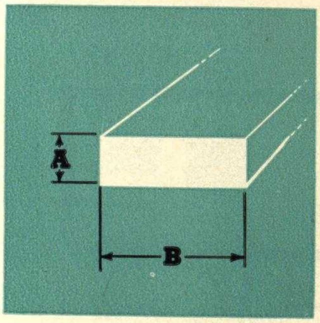


alloy: 6063-T5

standard length: 16 ft

height and width, A, in.	weight (est) lb/ft	die number
⅜	.169	A- 926
½	.300	A- 420
⅝	.468	A- 415
¾	.674	A-1225
1	1.200	A-4262
1¼	1.875	A- 373
1½	2.700	A-1657

rectangular bar

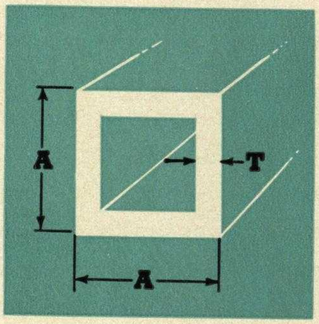


alloy: 6063-T5
standard length: 16 ft

thickness A, in.	width B, in.	weight (est) lb/ft	die number
⅛	¾	.113	A-1417
	1	.150	A-1325
	1¼	.187	A-1369
	1½	.225	A-7774
	1¾	.263	☐
	2	.300	A-2772
³⁄₁₆	½	.113	A-1327
	¾	.169	A-1328
	1	.225	A-1549
	1¼	.281	A-1329
	1½	.338	A-1330
	1¾	.394	A-1550
	2	.450	A-1229
	2½	.562	☐
¼	½	.147	☐
	⅝	.187	A-1438
	¾	.225	A-1598
	1	.300	A- 835
	1¼	.375	A-1331
	1½	.450	A-4256
	1¾	.526	A-4597
	2	.600	C-6604
	2½	.750	A-5923
	3	.900	A-3381
⅜	½	.225	A-1333
	⅝	.278	☐
	¾	.337	A-3064
	1	.450	A-1374
	1¼	.563	A-1766
	1½	.676	A-3151
	2	.900	A-2774
	3	1.350	☐
½	¾	.450	A-4771
	1	.600	A- 927
	1¼	.750	A-2777
	1½	.900	A-2778
	2	1.200	A-2779
	2½	1.500	A-2780
	3	1.800	A-2781
¾	1½	1.350	A-2786
	2	1.764	☐
1	1½	1.818	☐
	2	2.400	☐

☐ die number not yet determined

square tube

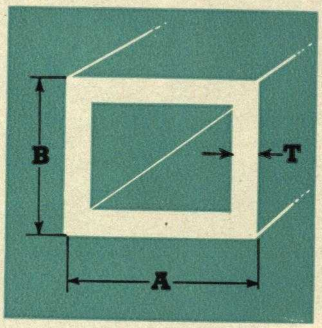


extruded • square corners
alloy: 6063-T5
standard length: 21 ft, 1 in.

height and width A, in.	thickness T, in.	weight (est) lb/ft	die number
⅝	¹⁄₁₆	.168	A-8860
¾	¹⁄₁₆	.205	A-8861
⅞	¹⁄₁₆	.242	A-8862
1	¹⁄₁₆	.280	A-7999
	⅛	.524	A-8938
1½	⅛	.826	☐
1¾	⅛	.975	A-3356
2	⅛	1.126	A-8212

☐ die number not yet determined

rectangular tube



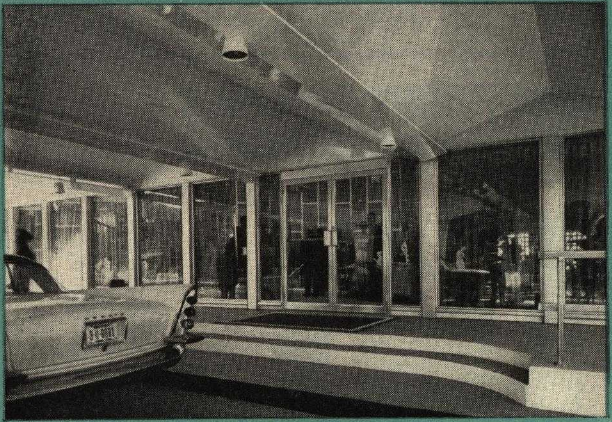
extruded • square corners
alloy: 6063-T5
standard length: 21 ft, 1 in.

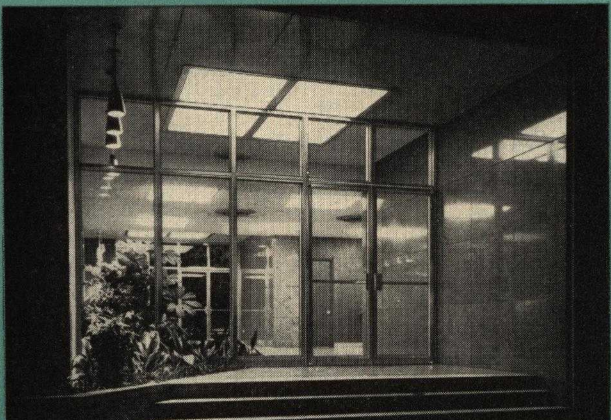
width A, in.	height B, in.	thickness T, in.	weight (est) lb/ft	die number
2	1¾	⅛	1.050	A-7926
2¼	1½	¼	1.950	A-4515
	1¾	⅛	1.126	A-6893
3	1¾	⅛	1.350	A-6894
4	1¾	⅛	1.650	A-3357
	2	³⁄₁₆	2.538	A-7983
4¼	1⅝	⅛	1.687	A-8353
	2	⅛	1.800	A-5363
4½	1¾	⅛	1.800	A-6901
5	1¾	⅛	1.950	A-7020
	2	⅛	2.026	A-5362
	3	³⁄₁₆	3.431	A-8785

entrances and store fronts

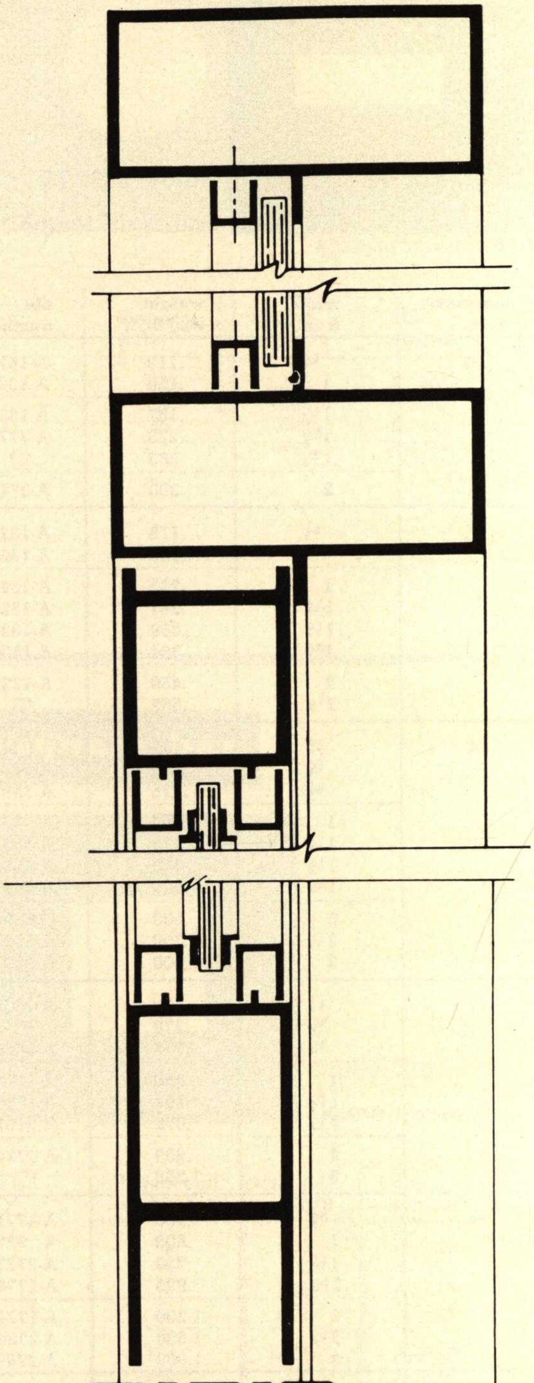
Revere basic components for entrances and store fronts are extruded from aluminum alloy 6063-T5, fully proved for architectural application. These basic components are highly versatile, readily adaptable to a practically unlimited field of application. They are easily combined with astragals, glazing bars, push bars, hardware—to form entrance frames, doors and show windows of clean design and simplicity.

These basic components assure both uniformity and precision of execution—also clean architectural line. Yet—as shown in the typical application details at right—they are highly versatile.





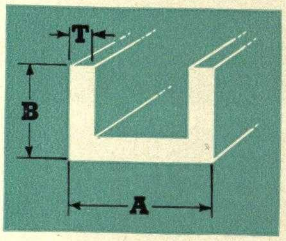
methods of application



components

alloy: 6063-T5

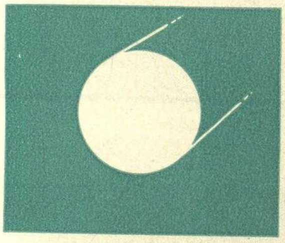
channel



standard length: 16 ft

width A, in.	height B, in.	thickness T, in.	weight (est) lb/ft	die number
½	⅜	⅛	.150	☐
½	½	3/32	.148	A-3248
¾	¾	⅛	.300	A-3188
1½	1½	⅛	.637	A-7414

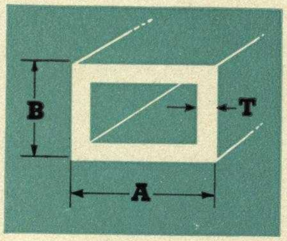
round rod



standard length: 16 ft

diameter: 1 in.
weight (est): .942 lb/ft
die number: A-4246

rectangular tube

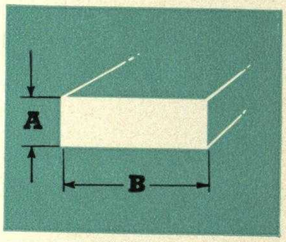


standard length: 21 ft, 1 in.

width A, in.	height B, in.	thickness T, in.	weight (est) lb/ft	die number
4¼	1⅝	⅛	1.687	A-8353
2	1¾	⅛	1.050	A-7926
2¼	1¾	⅛	1.126	A-6893
3	1¾	⅛	1.350	A-6894
4	1¾	⅛	1.650	A-3357
4½	1¾	⅛	1.800	A-6901
5	1¾	⅛	1.950	A-7020
4¼	2	⅛	1.800	A-5363
5	2	⅛	2.026	A-5362
5	3	3/16	3.431	A-8785
1¾	4½ •	⅛	1.950	A-6902

• with stop

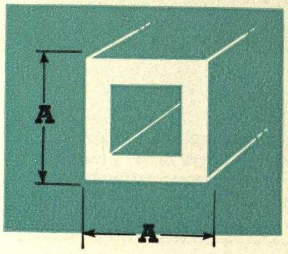
rectangular bar



standard length: 16 ft

thickness A, in.	width B, in.	weight (est) lb/ft	die number
¼	½	.149	☐
½	1	.600	A- 927
½	1½	.900	A-2778
½	2	1.200	A-2779

square tube



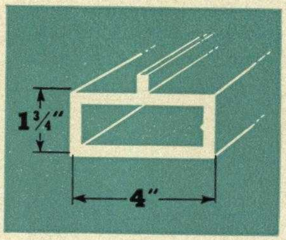
standard length: 21 ft, 1 in.

width and height A, in.	thick-ness in.	weight (est) lb/ft	die number
1	⅛	.524	A-8938
1¾	⅛	.975	A-3356
2	⅛	1.126	A-8212
4	⅛	2.294	☐

☐ die number not yet assigned

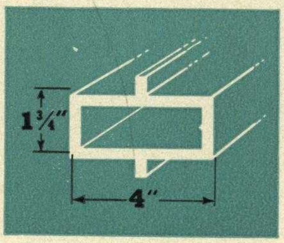
rectangular tube with fins

standard length: 21 ft, 1 in.



single

width: 4 in.
height: 1¾ in.
weight (est): 1.726 lb/ft
die number: A-7103

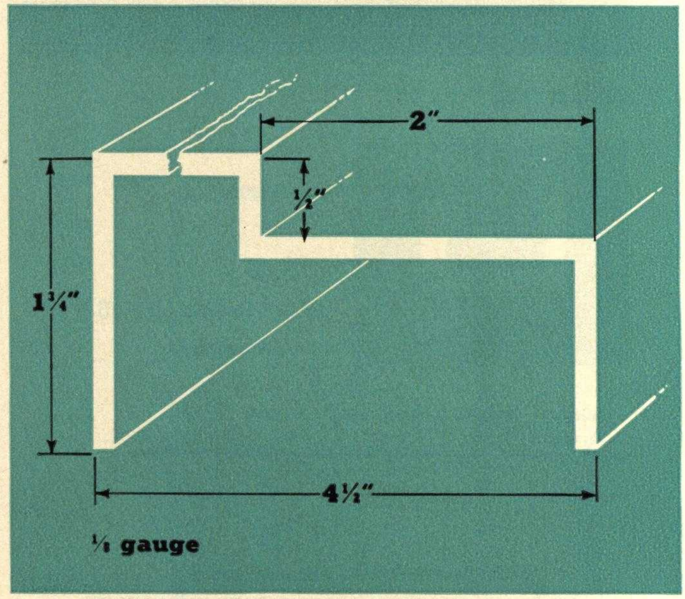


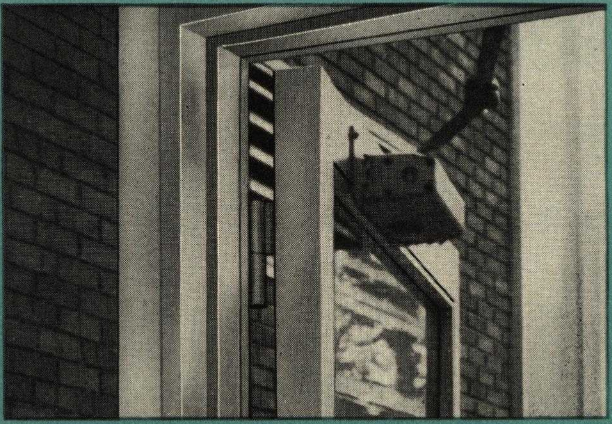
double

width: 4 in.
height: 1¾ in.
weight (est): 1.800 lb/ft
die number: A-7104

door jambs

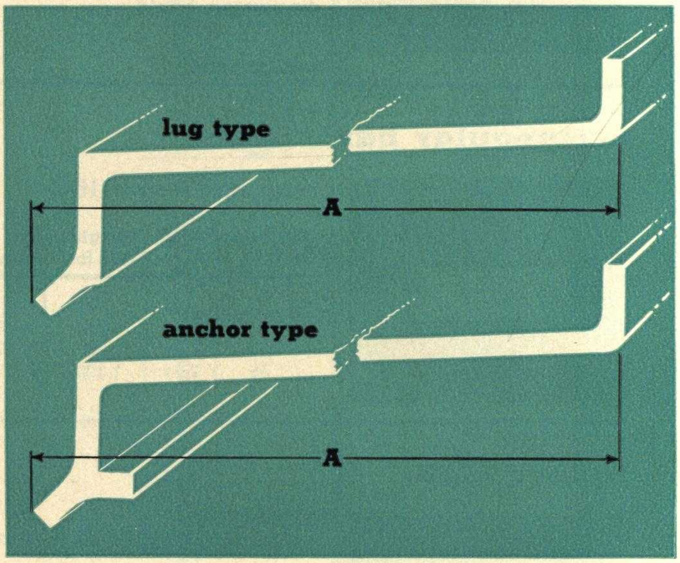
Revere aluminum door jambs are highly stylized in their clean, crisp design. They are definitely in stride with today's design trends—and blend admirably with virtually all building materials and color schemes. They are extruded from alloy 6063-T5, well proved for architectural applications. The jamb detailed at right is typical of the wide variety of designs available. Standard length: 16 ft.

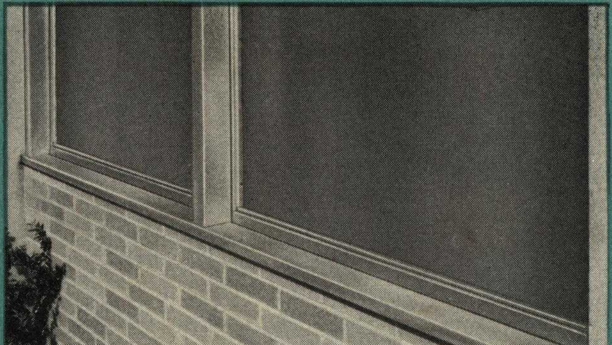




window sills

Revere aluminum window sills are especially designed to provide weathertight protection over masonry openings. They are extruded from aluminum alloy 6063-T42, well established as a highly satisfactory architectural metal. Consequently, these window sills are uniform in cross-section, free from staining adjacent materials—and easy to install. They are used with window sash of aluminum, steel or wood. Standard length: 20 ft.





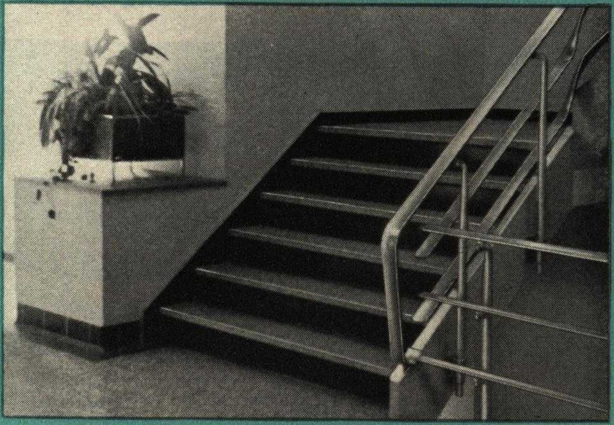
type	width A, in.	thickness T, in.	weight (est) lb/ft	die number
lug	5 1/2	1/8	.992	A-1295
	6	1/8	1.060	A-1294
anchor	5 1/2	1/8	1.051	A-7258
	7 9/16	5/32	1.399	A-7259

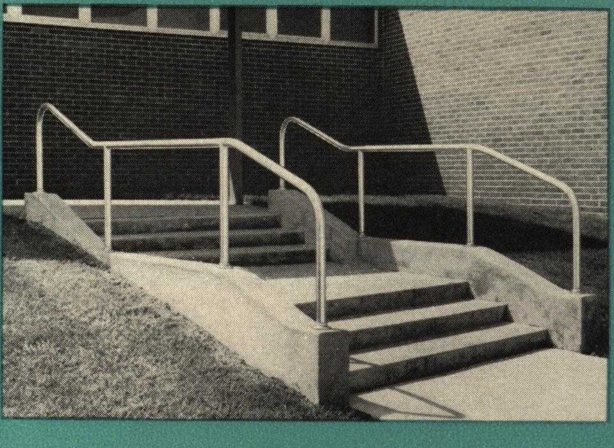
railings

Revere aluminum railings not only offer wide opportunity for a variety of pleasing effects—but also prove highly practical for virtually all types of interior and exterior applications.

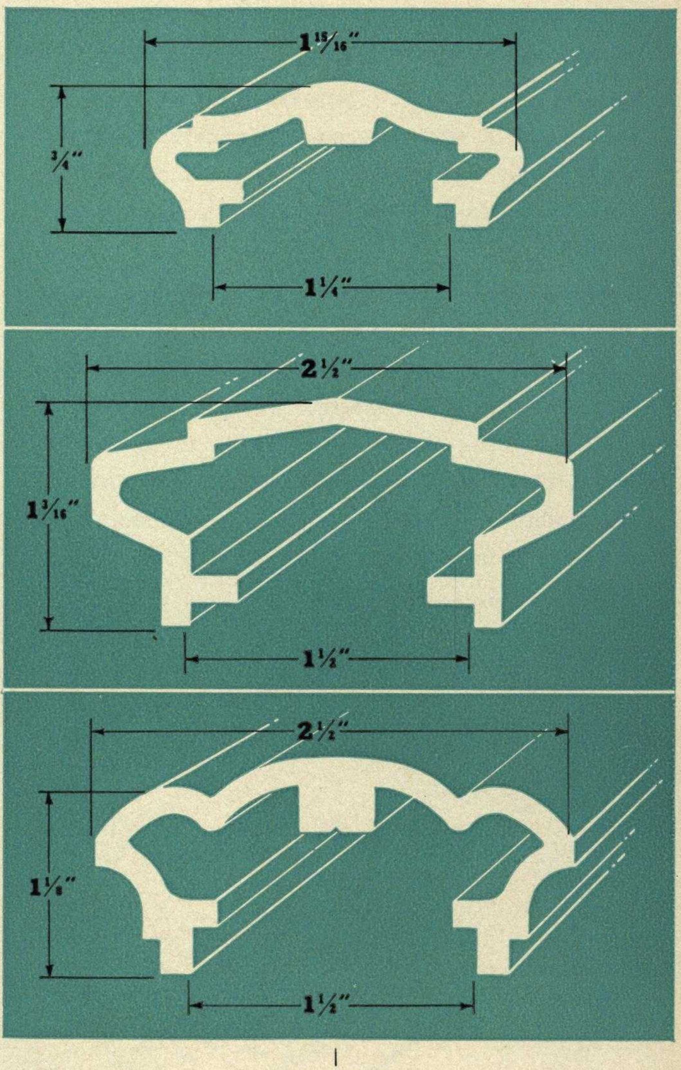
The three ornamental designs at the right are particularly suitable to applications requiring a traditional style. They are extruded from alloy 6063-T5, in 20-foot standard lengths.

The stock pipe, rod, rectangular bar and rectangular tube are readily combined to form a variety of highly stylized railings, definitely compatible with today's architectural trends; see section 3 for sizes and dimensions.

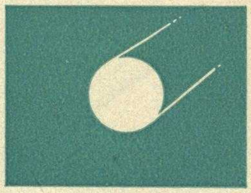




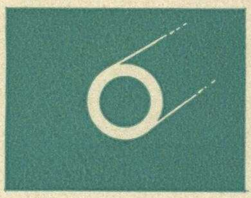
extruded shapes



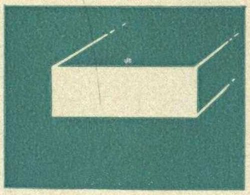
rod



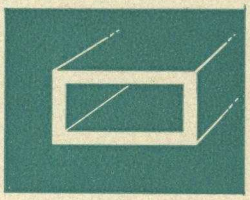
pipe



bar



tubing



thresholds

Revere aluminum thresholds are particularly designed to reduce the possibility of slippage at entryways; to resist the wear of constant foot traffic; to receive weather stripping; to compensate for variation in floor level due to interior floor coverings.

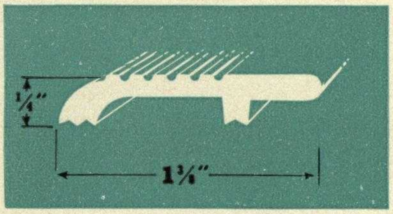
Because these thresholds are extruded from aluminum alloys 6063-T5, well proved for architectural applications, they remain strong, free from staining, uniform in cross-section from end to end. In addition, these thresholds—due to their neutral, non-contrasting color—harmonize with virtually any building material and any color scheme. They are easy to install.

standard length: 16 ft., 3 in.

weatherstrip type

These thresholds, designed to accommodate various types of weatherstripping, are the interlocking design. They are designed with flanges or undercuts—to dovetail with contours at the base of the door. This tight interlock provides a barrier against wind and moisture.

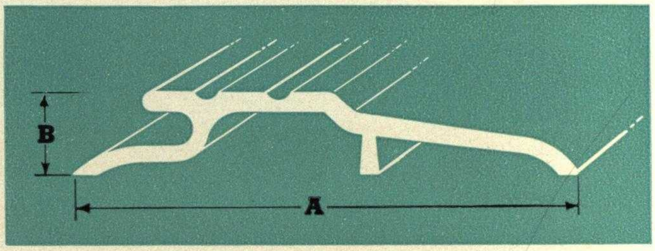
weatherstrip type 1



die number: A966

---

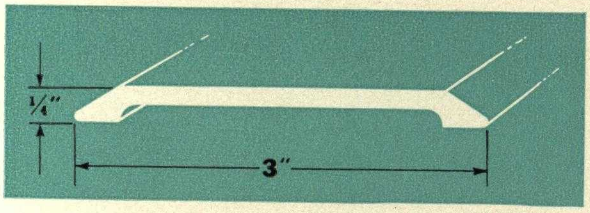
weatherstrip type 2



width A, in.	height B, in.	weight (est) lb/ft	die number
3 1/2	9/16	.624	A-2015
4 1/2	5/8	.732	A-270

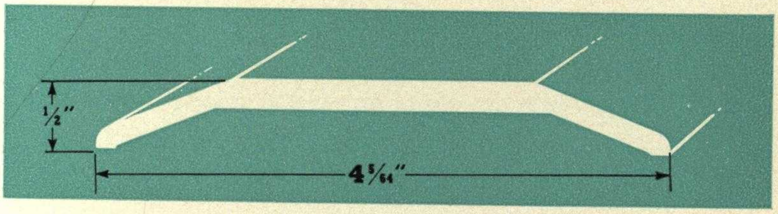
saddle type

saddle type 1



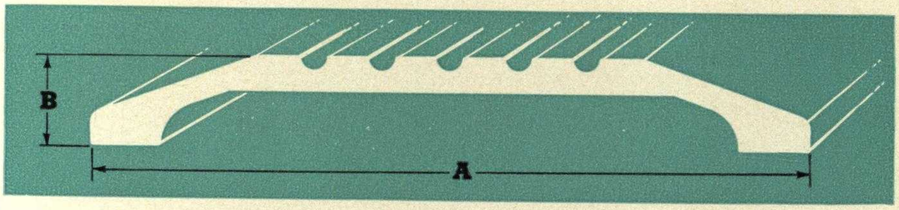
die number: A-2018

saddle type 2



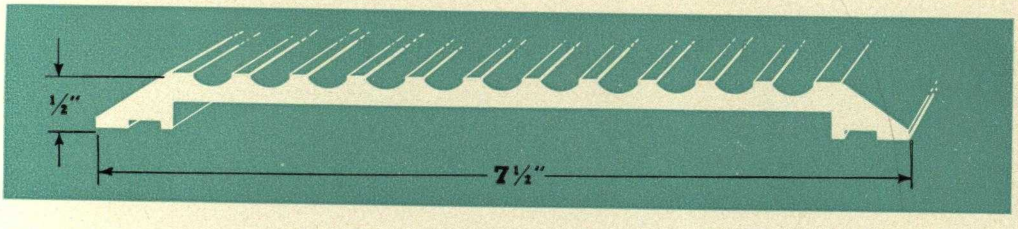
die number: A-2016

saddle type 3



width A, in.	height B, in.	weight (est) lb/ft	die number
3 1/2	1/2	.768	A- 756
4	1/2	.828	A-1499
5	1/2	1.104	A-4782
7	1/2	1.734	A-3395

saddle type 4



die number: A-6520

sheet/plain/embossed

Revere aluminum sheet—both plain and embossed—takes its place as a standard, highly versatile building material. Because of its unique combination of properties, this sheet is widely used for both structural and decorative applications—in commercial and industrial buildings, in hotels, motels and airports, in schools, churches, and of course in homes.

In fact this highly versatile sheet is not limited to traditional uses such as roofing and siding. Today it is opening new design horizons—on such applications as canopies, solar shading (both vertical and horizontal), wall facings (particularly when formed into interlocking profiles), curtain walls, ventilating ducts—and, of course, gutters and downspouts. In addition, this aluminum sheet, because of its inherent light weight, permits both lighter foundations and lighter structural framework. This light weight likewise permits larger—and consequently fewer—structural units; this means fewer field joints and reduced erection time.

This aluminum sheet, of course, requires practically no maintenance. It remains virtually unaffected by time, the elements, or wear.

plain

Revere plain aluminum sheet in its fabricated (mill) form has a natural attractive finish which eventually weathers to a pleasing, uniform gray. It is recommended for curtain walls and other applications where low cost is an important factor. The plain sheet, however, can be given a variety of finishes to provide interesting textures and further protection against corrosion and abrasion. These finishes include frosted, matte, polished, scratched—and the popular anodized finishes, either clear or in color. For highly colorful effects, this plain aluminum sheet can be coated with porcelain enamel in an unlimited range of colors (see section 3).

embossed

Revere embossed aluminum sheet—in the patterns shown on the opposite page—offers unusual opportunity for striking, interesting effects, particularly of large flat areas. These embossed patterns, by creating shadows, give a rich, textural depth to the sheet. Because these patterns are actually rolled into the sheet, they are permanent; they cannot lose their shape or wear off; they retain their attractive textures. Further, these embossed patterns increase the stiffness of the sheet—but do not affect its workability.

The patterns shown on the opposite page are embossed on both sides. Consequently, each side has a slightly different texture.

This embossed aluminum sheet, like the plain, can be given a variety of finishes. It can be anodized, either clear or in color. And it can be coated with porcelain enamel in an unlimited range of colors.

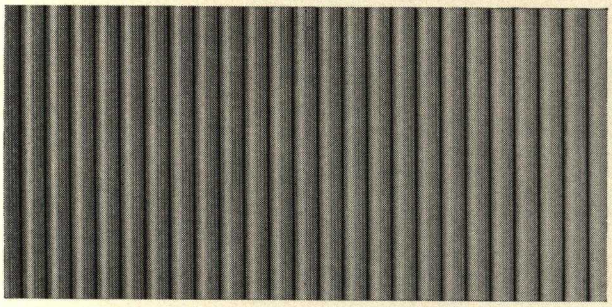
dimensions, plain and embossed

	sizes, in.						
gauge, in.	24 x 96	36 x 96	36 x 120	36 x 144	48 x 96	48 x 120	48 x 144
.016	x	x					
.020		x	x				
.025		x	x		x	x	
.032		x	x	x	x	x	x
.040		x	x	x	x	x	x
.050		x	x	x	x	x	x
.063		x	x	x	x	x	x

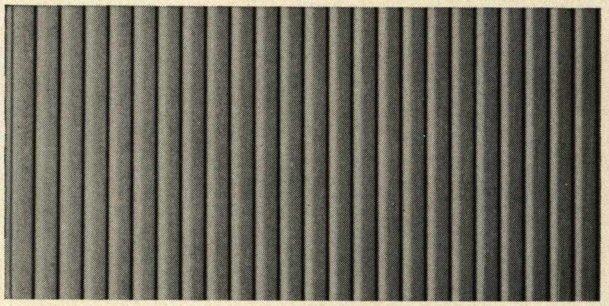
temper: 3003H-14

embossed patterns

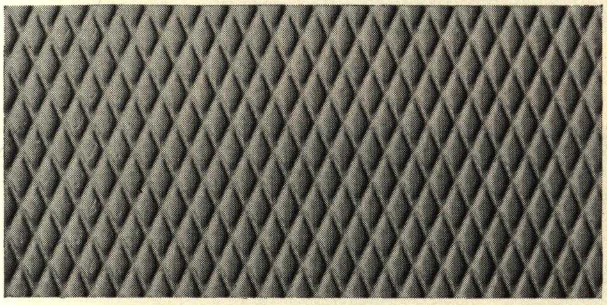
fluted pattern REV 12



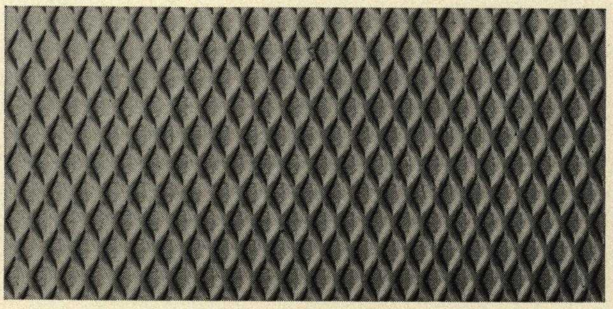
ribbed pattern REV 12



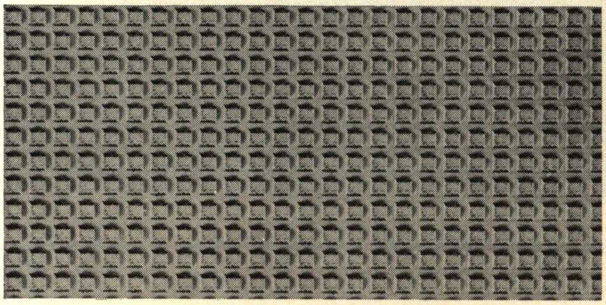
diamond, raised pattern REV 13



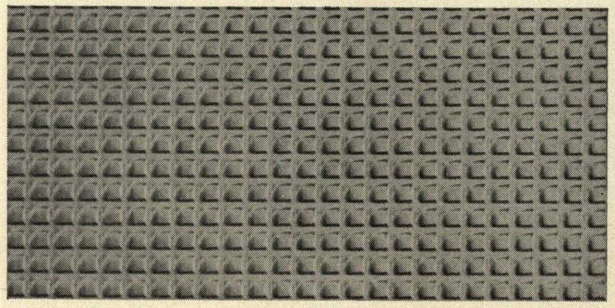
diamond, indented pattern REV 13



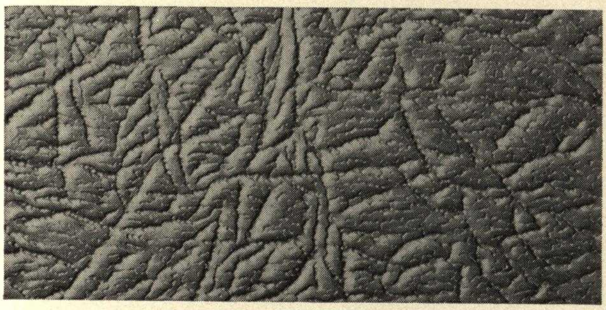
square, raised pattern REV 14



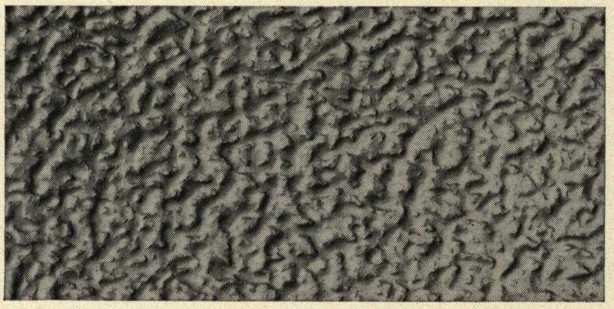
square, indented pattern REV 14



leather pattern REV 15



stucco pattern REV 5



Alclad corrugated roofing and siding

Because of its long service life, its freedom from maintenance — and its clean, trim eye-appeal — Alclad corrugated roofing and siding is taking an important place on the industrial horizon. Today, this versatile, yet basically economical material is protecting all types of industrial buildings, equipment housings, warehouses, hangars, passageways. It is also finding entirely new fields of application—sheathing for entire buildings, terminals, hospitals, stadia, schools . . . also as permanent decorative treatment in a variety of buildings.

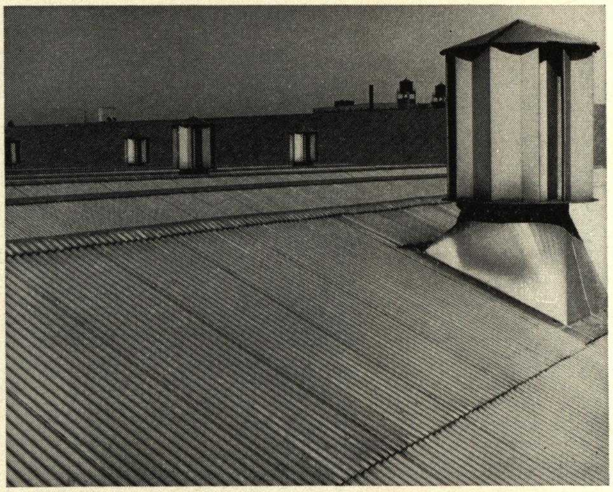
The reason this Alclad roofing and siding is developing so many applications is the unique combination of attributes it adds to its permanent, attractive appearance:

high resistance to corrosion Alclad corrugated roofing and siding is, in reality, a "sandwich." Its core of high-strength aluminum alloy is protected on both sides by a cladding of virtually pure aluminum — to provide the greatest possible corrosion resistance.

high developed strength Alclad corrugated roofing and siding develops sufficient strength to carry heavy uniform loads. The corrugations prevent buckling.

easy erection Due to its inherent light weight, Alclad corrugated roofing and siding assures fast, easy erection. It is easy to handle, transport and put in place. And it requires lighter supporting structure.

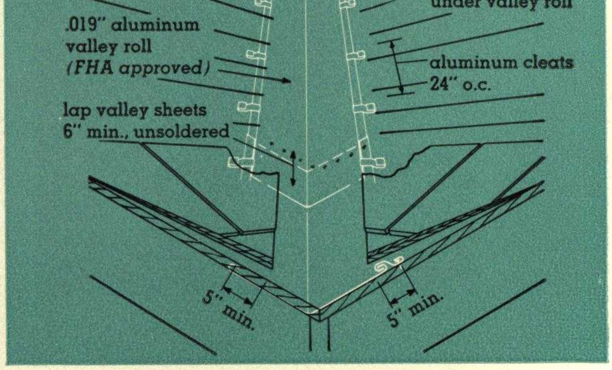
thermal reflectivity The highly reflective surface of Alclad roofing and siding prevents most of the sun's heat from entering the building. This is particularly advantageous in reducing interior temperatures.



valley roll

Revere aluminum valley roll is particularly designed for permanently sealing both open and closed valleys. Because of its inherent light weight, it is easy to handle, transport and install. Because of its high resistance to corrosion, it does not require weather protection. For open valleys, it is installed in 8-ft lengths. For closed valleys, it is cut into separate pieces as long as the diagonal of the shingle at the valley—and built in with each course of the shingles.

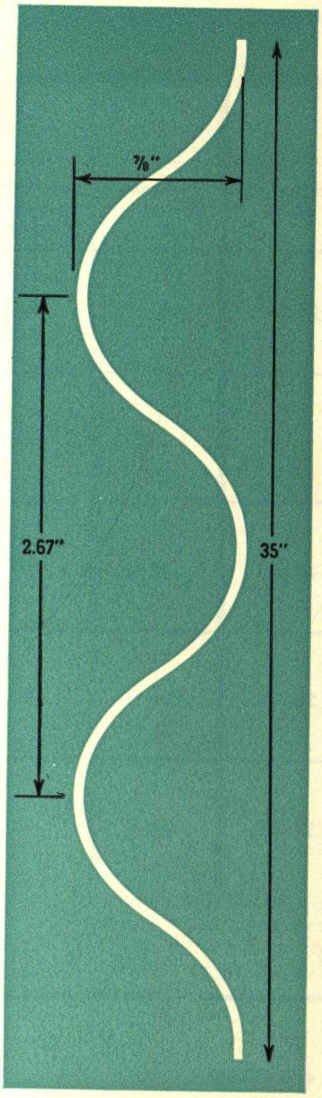
This Revere aluminum valley roll is generally furnished in .019-in. thickness, FHA approved. Also furnished in .016-in. thickness.


nail each sheet at top edge only; use aluminum nails
.019" aluminum valley roll (FHA approved)
lap valley sheets 6" min., unsoldered
building paper under valley roll
aluminum cleats 24" o.c.
5" min.
5" min.

aluminum structural components

corrugated roofing, siding

valley roll



specifications

length of sheet ft	**roofing** over-all width: 35 in.				**siding** over-all width: 33¼ in.			
	coverage per sheet sq ft	sheets per square (100 sq ft)	weights per sheet, lb		coverage per sheet sq ft	sheets per square (100 sq ft)	weights per sheet, lb	
			.024-in.	.032-in.			.024-in.	.032-in.
5	14.58	6.86	6.03	8.04	14.06	7.11	5.82	7.76
5½	16.04	6.23	6.64	8.85	15.47	6.46	6.40	8.54
6	17.50	5.71	7.24	9.65	16.87	5.93	6.98	9.31
6½	18.96	5.27	7.84	10.46	18.28	5.47	7.56	10.09
7	20.42	4.90	8.45	11.26	19.69	5.08	8.15	10.87
7½	21.88	4.57	9.05	12.07	21.09	4.74	8.73	11.65
8	23.33	4.29	9.65	12.87	22.50	4.44	9.31	12.42
8½	24.79	4.03	10.26	13.68	23.91	4.18	9.89	13.20
9	26.25	3.81	10.86	14.48	25.31	3.95	10.48	13.97
9½	27.71	3.61	11.46	15.29	26.72	3.74	11.06	14.75
10	29.17	3.43	12.07	16.09	28.12	3.56	11.64	15.52
10½	30.63	3.26	12.67	16.90	29.53	3.39	12.22	16.30
11	32.08	3.12	13.28	17.70	30.94	3.23	12.80	17.08
11½	33.54	2.98	13.88	18.51	32.34	3.09	13.38	17.86
12	35.00	2.86	14.48	19.31	33.75	2.96	13.97	18.63

thicknesses: .024 and .032 in.

widths:

roofing
over-all: 35 in.
covering: 32 in. (lap of 1½ corrugations)

siding
over-all: 33¾ in.
covering: 32 in. (lap of 1 corrugation)

lengths: 5 to 12 ft in 6-in. increments

corrugations:
depth: ⅞ in.
pitch: 2.67 in. center to center

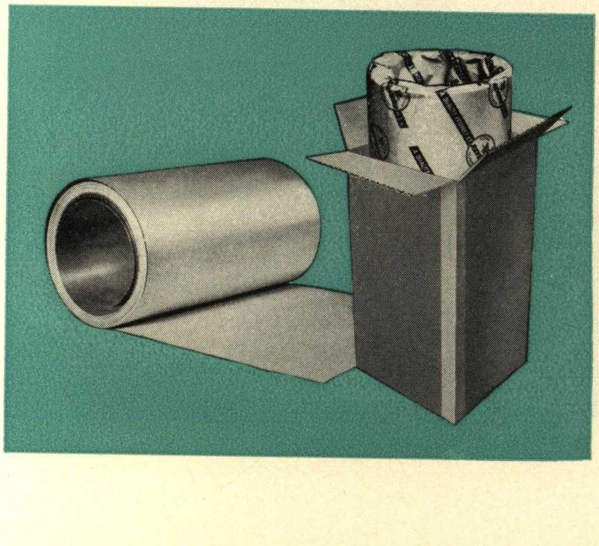
weight (approx):
per 100 sq ft, formed
.024-in.: 41 lb
.032-in.: 55 lb

finishes: plain mill and stucco embossed

color: natural

spacing of supports

recommended spacing of purlins and girts, ft	safe uniform load (max) lb/sq ft	
	.024-in.	.032-in.
3½	79	106
4	60	80
4½	48	63
5	39	50
5½	32	41
6	27	35
6½	23	29
7	20	25
7½	17	22



width in.	no. coils per carton	weight per coil, lb	
		.016-in.	.019-in.
3	4	2.8	3.4
6	2	5.6	6.7
7	2	6.6	7.8
8	2	7.4	8.9
10	2	9.4	11.7
12	1	11.3	13.5
14	1	13.2	15.6
16	1	14.9	17.9
18	1	16.9	20.1
20	1	18.8	23.4
24	1	22.6	27.0
28	1	26.3	31.3

characteristics of Revere structural aluminum alloys

Revere aluminum structural components are not all made from the same aluminum alloy. Instead, each component is fabricated in the alloy and temper most suitable to its intended use, finishing and exposure. Consequently, there are three alloys generally used for these structural components—one in the non-heat-treatable (3000) series; two in the heat-treatable (6000) series.

In order that the architect, contractor and fabricator may have a clear understanding of the general characteristics, application and typical properties of these three alloys in their most usable tempers, their general description is given below—and their mechanical and physical values in the table at right.

alloy 3003

This non-heat-treatable alloy has the corrosion resistance of commercial purity aluminum—yet, due to its 1% manganese, it has higher mechanical properties. It also has good forming characteristics.

alloy 6061

This heat-treatable alloy, due to the addition of silicon and magnesium, combines medium strength, good formability with excellent corrosion resistance.

alloy 6063

This alloy is also heat-treatable, due to the addition of silicon and magnesium. It combines all the desirable characteristics of alloy 6061 but it is lower in strength and cost.

typical properties of aluminum alloys used in fabricating Revere structural components

Revere alloy		strength, psi		elongation, % in two inches	
no.	temper	ultimate	yield	specimen $\frac{1}{16}$ inch thick	specimen ½ inch diameter
3003	H14	22,000	21,000	8	16
	H154	—	—	—	—
6061	T6	45.000	40,000	12	17
6063	T5	27,000	21,000	12	—
	T42	22,000	13,000	20	—

the Revere assurance of quality

In order that the inherent qualities of these aluminum alloys—of all Revere products, in fact—may be uniformly maintained, Revere stresses constant improvement of its fabricating techniques—constant inspection throughout all its plants, through all its processes. The fabricating and testing facilities pictured at right are typical of the ever-expanding Revere plants and laboratories. Their advanced methods assure dependable uniformity of Revere products. No wonder Revere aluminum in the form of its structural components—is taking its place as a major structural material!

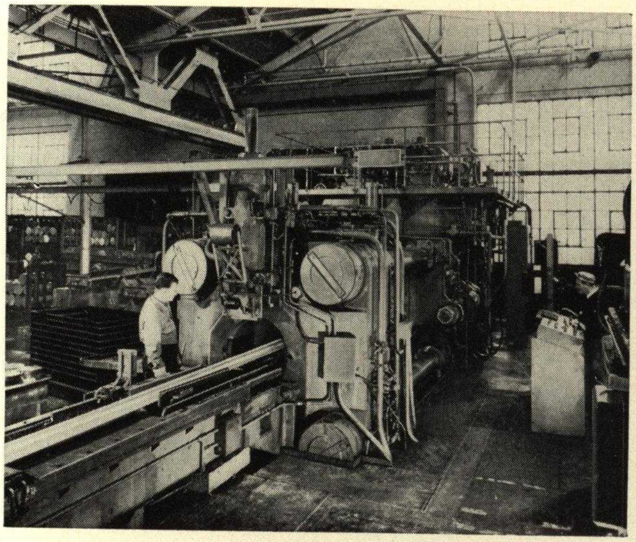
hardness Brinnell 500 kg load 10 mm ball	shearing strength (ultimate) psi	fatigue endurance limit[1] psi	modulus of elasticity[2] psi x 10^6	thermal conductivity at 25C (77F) cgs[3] units	 English[4] units	electrical conductivity at 20C (68F) % IACS equal volume	 equal weight	density lb/cu in.	 lb/cu ft	specific gravity	coefficien of therma expansion 68 to 212 F average per
40	14,000	9,000	10.0	.38	1100	41	134	.099	170	2.73	0.0000129
—	—	—	—	—	—	—	—	—	—	—	—
95	30,000	14,000	10.0	.37	1070	40	132	.098	169	2.70	0.0000131
60	17,000	10,000	10.0	.48	1390	53	175	.098	169	2.70	0.0000130
42	14,000	9,000	10.0	.46	1340	50	165	.098	169	2.70	0.0000130

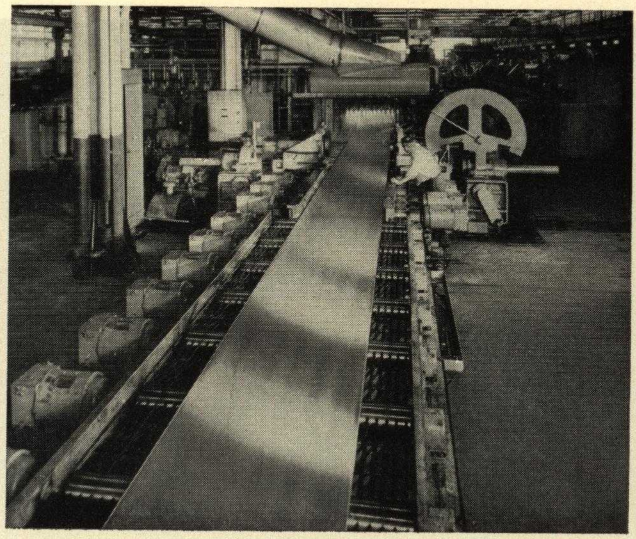
[1] based on 500,000,000 cycles of completely reversed stress, using the RR Moore type of machine and specimen

[2] average of tension and compression moduli; compression modulus is about 2% greater than tension modulus

[3] CGS units = $cal/cm/cm^2/°C/sec.$

[4] English units = $btu/in/ft^2/°F/hr.$





REVERE standard structural components are available through a network of selected distributors

Revere plants, mills and sales offices span the nation from coast to coast. To supplement these production and sales facilities, Revere also maintains a nationwide network of carefully selected distributors to service the needs of the building and construction industry.

Builders, contractors, architects and engineers know they can depend on the quality of Revere Aluminum Products. With over a century and a half devoted to the fabrication of non-ferrous metals Revere truly knows its A-B-C's in metals. A for aluminum, B for brass, C for copper.

Quality Control Protects Customer

Revere quality represents a standard of excellence which is consistent and controlled at every step in the production process. In addition to sound metals, skillful fabrication and careful inspection techniques, Revere has developed a special system of quality control. Controlled testing and inspection at each stage in the fabricating of standard structural components insures close maintenance of quality.

Prompt Service, Speedy Delivery

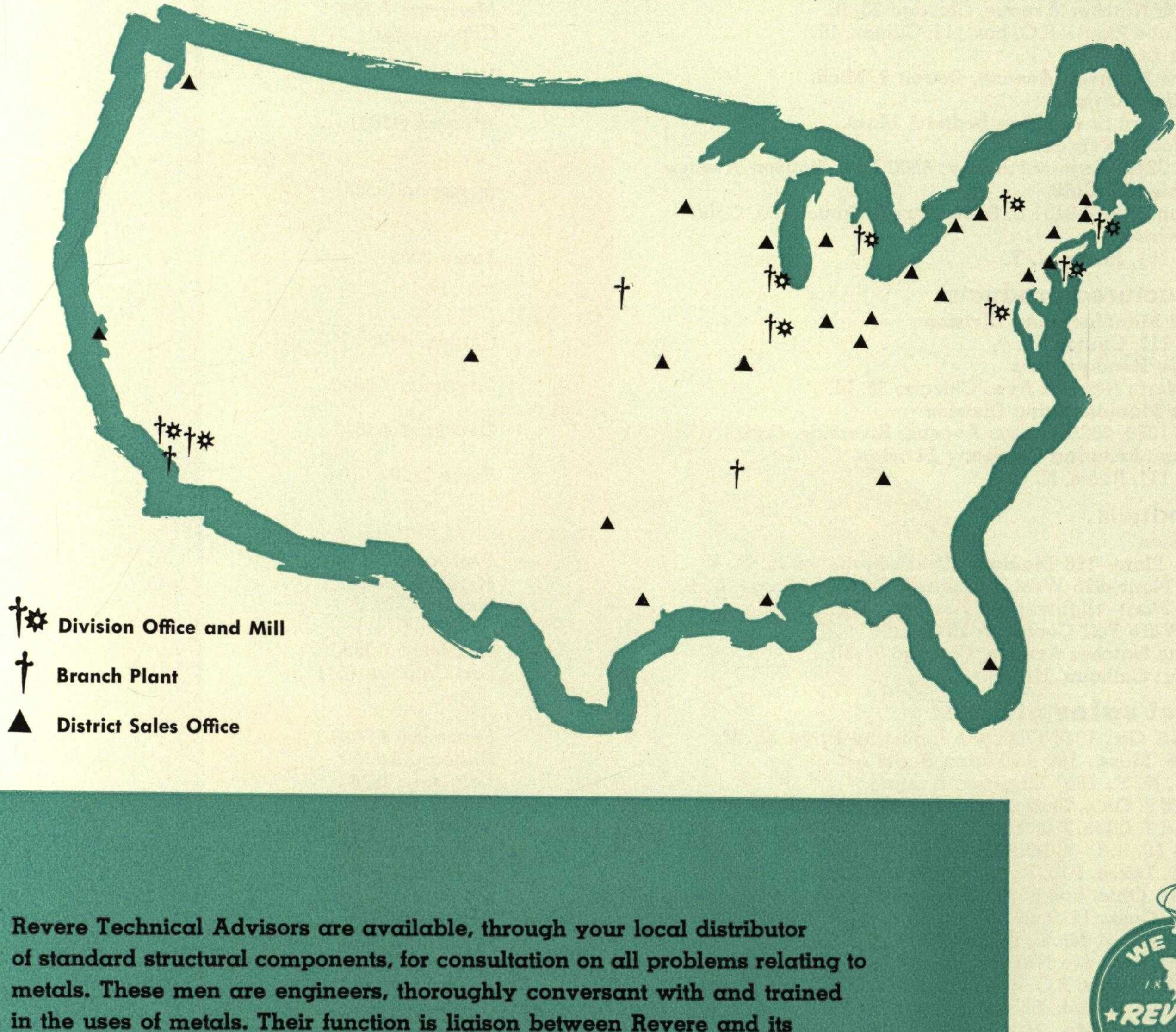
Revere is interested in supplying to every customer products that meet his specific requirements. This is particularly true of the standard structural components Revere supplies to the building and construction industry through its network of competent, dependable distributors. Call the nearest Revere distributor for prompt service and speedy delivery.

Consultation a Phone Call Away

As you will see by glancing at the map on the right, Revere plants and offices are conveniently situated to service distributors and customers in all sections of the United States. Expert mill technicians and competent sales representatives are never more than a phone call away. They stand ready to serve you—should such help be needed.

technical advisory service available through

your local REVERE distributor . . .



Revere Technical Advisors are available, through your local distributor of standard structural components, for consultation on all problems relating to metals. These men are engineers, thoroughly conversant with and trained in the uses of metals. Their function is liaison between Revere and its customers. Their experience and access to many sources of information enables them to collaborate effectively with customers in solving problems customers can't solve by themselves.

In this way, the Revere Technical Advisory Service has helped many manufacturers to lower production costs and improve product quality. This fund of technical knowledge and scientific know-how is yours for the asking. Simply call upon your nearest Revere distributor to put you in touch with a Revere Technical Advisor, when faced with your next metals problem.

tag

label

Revere Copper and Brass Incorporated

Executive Offices: 230 Park Avenue, New York 17, N. Y.

Phone: MUrray Hill 9-6800 *Teletype: NY 1-1222* *Cable address: REVERECOP—New York*

division offices and mills:

mill products

	telephone
Baltimore Division	
P.O. box 2075, 1301 Wicomico Street, Baltimore 3, Md.	*Vernon 7-0500*
Dallas Division	
2200 North Natchez Avenue, Chicago 35, Ill.	*Merrimac 7-2600*
Clinton Tube Plant—P.O. box 112, Clinton, Ill.	*Clinton 1000*
Michigan Division	
5851 West Jefferson Avenue, Detroit 9, Mich.	*Vinewood 1-7350*
New Bedford Division	
24 North Front Street, New Bedford, Mass.	*Wyman 8-5601*
Pacific Coast Division	
P.O. box 3246, Terminal Annex, 6500 East Slauson Avenue Los Angeles 54, Calif.	*Raymond 3-3331*
Santa Ana Plant—3131 S. Bristol Street, Santa Ana, Calif.	
Rome Division	
P.O. box 151, Rome, N. Y.	*Rome 2000*

manufactured products

	telephone
† Clinton Manufacturing Division	
P.O. box 112, Clinton, Ill.	*Clinton 1000*
† Sales Headquarters	
2200 North Natchez Ave., Chicago 35, Ill.	*Merrimac 7-2600*
Riverside Manufacturing Division	
P.O. box 1069, 2626 Kansas Avenue, Riverside, Calif.	*Overland 4-5610*
Rome Manufacturing Company Division	
P.O. box 111, Rome, N. Y.	*Rome 2800*

foil products

	telephone
Foil Division	
Brooklyn Plant—196 Diamond Street, Brooklyn 22, N. Y.	*Evergreen 9-5180*
Chicago Plant—825 West Blackhawk Street, Chicago 22, Ill.	*Michigan 2-0692*
Newport Plant—Highway 67, Newport, Ark.	*Jackson 3-2771*
Revere Ware Foil Container Division	
2200 North Natchez Avenue, Chicago 35, Ill.	*Merrimac 7-2600*
Plant—Fort Calhoun, Nebr.	*Fort Calhoun 4011*

district sales offices:

	telephone
Atlanta 18, Ga., 1310 Ellsworth Industrial Drive, N. W.	*Sycamore 4-7628*
Boston 16, Mass., 108 Arlington Street	*Hubbard 2-7190*
Buffalo 7, N. Y., 1807 Elmwood Avenue	*Delaware 7616*
Cincinnati 8, Ohio, Station "O", Box 26, 3181 Linwood Rd.	*Trinity 1-1232*
Cleveland 7, Ohio, P.O. box 2656, Lakewood Branch, 14700 Detroit Avenue	*Lakewood 1-2440*
Cranston 10, R. I., 30 Midway Road	*Williams 2-1900*
Dallas 35, Texas, P.O. box 35247, 8320 Chancellor Row	*Fleetwood 7-4058*
Dayton 31, Ohio, box 3056, Overlook Branch, 3898 Linden Avenue	*Clearwater 2-5616*
Denver 4, Colo., 1219 California Street	*Alpine 5-2066*
Grand Rapids 2, Mich., Keeler Building	*Glendale 9-3301*
Hartford, Conn., see Newington	
Houston 27, Texas, P.O. box 22033, 3202 Weslayan Street	*Mohawk 7-9347*
Indianapolis 20, Ind., 665 East 61st Street	*Clifford 1-4505*
Kansas City 11, Mo., 34th Street and Broadway	*Logan 1-8403*
Miami, Fla., see North Miami	
Milwaukee 2, Wis., 828 North Broadway	*Broadway 1-1440*
Minneapolis 5, Minn., 2809 Wayzata Boulevard	*Franklin 7-0890*
Newington 11, Conn., 81 Market Square	*Mohawk 6-2491*
New Orleans 12, La., 923 Howard Avenue	*Jackson 5-4259*
New York 17, N. Y., 75 East 45th Street	*Murray Hill 9-6800*
North Miami, 61, Fla., 900 N. E. 125th Street	*Plaza 1-1614*
Philadelphia, Pa., see Wynnewood	
Pittsburgh 28, Pa., 666 Washington Road	*Locust 1-8606*
Providence, R. I., see Cranston, R. I.	
Rochester 4, N. Y., 31 Gibbs Street	*Baker 5-6540*
St. Louis 8, Mo., 3615 Olive Street	*Jefferson 1-0300*
San Francisco 11, Calif., World Trade Center	*Sutter 1-0282*
Seattle 9, Wash., 314 Fairview Avenue, North	*Main 2-1401*
Wynnewood, Pa., One Wynnewood Road	*Greenwood 7-8326*

12-59

Digitized by:

INTERNATIONAL

ASSOCIATION
FOR
PRESERVATION
TECHNOLOGY,
INTERNATIONAL
www.apti.org

BUILDING
TECHNOLOGY
HERITAGE
LIBRARY

https://archive.org/details/buildingtechnologyheritagelibrary

From the collection of:

Carol J. Dyson, AIA